

WHAT IS CLAIMED IS:

1. A device for compensating the effect of temperature changes in an electrical or electronic circuit comprising:

a substrate having a pair of major surfaces;

a plurality of thermistors embedded within the substrate, at least one of the thermistors comprising a columnar body of thermistor material extending substantially in the direction between the major surfaces; and

metallization patterns on the major surfaces interconnecting the thermistors in a temperature compensating circuit.

2. The device of claim 1 wherein the substrate comprises a ceramic substrate.

3. The device of claim 1 wherein at least one of the thermistors comprises a plurality of parallel-interconnected columnar bodies of thermistor material, each body extending substantially in the direction between the major surfaces.

4. The devices of claim 1 wherein the columnar body of thermistor material has opposite ends contacted with the metallization at the respective major surfaces of the substrate and a lateral area embedded within the substrate, the embedded lateral area larger than the areas of the ends.

5. The device of claim 1 wherein each of a plurality of thermistors comprise a columnar body of thermistor material extending substantially in the direction between the major surfaces.

6. The device of claim 1 wherein each thermistor of the plurality of thermistors comprises a plurality of parallel interconnected columnar bodies of thermistor material.

7. The device of claim 1 wherein the columnar body has its maximum dimension extending between the major surfaces.

8. The device of claim 1 wherein the columnar body has its maximum dimension extending parallel to a major surface.

9. A method of making a thermistor device comprising the steps of:
providing an assembly of unfired ceramic material having a pair of major surfaces and a plurality of holes extending between the major surfaces;
filling the holes with ceramic ink containing thermistor material;
forming on the major surfaces patterns of conductive ceramic ink for interconnecting the filled holes into a temperature compensating circuit;
and sintering the unfired ceramic material and inks to form a plurality of interconnected columnar bodies of thermistor material embedded within a sintered ceramic substrate.

10. The method of claim 7 wherein the sintering produces at least one thermistor comprising a plurality of parallel interconnected columnar bodies of thermistor material and further comprising the step of:

trimming the at least one thermistor by cutting the parallel connection to at least one of the columnar bodies of thermistor material.